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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,472	01/25/2001	Atsushi Maeda	500.39540X00	3957

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EXAMINER

CHANKONG, DOHM

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 04/26/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/768,472

Applicant(s)

MAEDA, ATSUSHI

Examiner

Dohm Chankong

Art Unit

2154

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2001.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-3 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/25/01
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

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DETAILED ACTION

1. Claims 1-3 are presented for examination.

Claim Objections

2. It is noted that although the present application does contain line numbers in the specification and claims, the line numbers in the claims do not correspond to the preferred format. The preferred format is to number each line of every claim, with each claim beginning with line 1. For ease of reference by both the Office and Applicant all future correspondence should include the recommended line numbering.

Claim Rejections - 35 USC § 103

3. Claims 1 and 2 are rejected under 35 U.S.C 103(a) as being unpatentable over Maciel et al (hereinafter Maciel), U.S Patent No. 6,112,248, in view of Fenner, U.S Patent No. 5,490,258.

4. As to claim 1, Maciel teaches a load balancing method for a first network and a second network, said network having a plurality of segments each connecting terminals, for relaying data between the first and second networks (Abstract and Figure 1), said method comprising the steps of:

storing source addresses of the terminals for relaying data in the first network, in a terminal address table provided in each apparatus relaying data between the terminals and the first network (column 1, line 41 to column 2, line 14);

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measuring a load of data to be relayed in the first network and exchanging load data between a plurality of the apparatus (column 6, line 28 to column 7, line 27 and claim 1); and

if the load of data to be relayed in the first network via one apparatus is largest or relatively large, selecting another apparatus having a smallest or relatively small load, and deleting a source address selected in accordance with the load to be relayed in the first network for each of source addresses of the terminals, from said terminal address table (column 6, lines 18-27 and line 60 to column 7, line 7, column 9, lines 14-30 and claims 1 and 7).

Maciel does not teach:

notifying the source address of the terminal deleted from the terminal address table of said one apparatus to the selected other apparatus; and

storing the notified source address in the terminal address table of the notified other apparatus.

5. Fenner teaches:

notifying the source address of the terminal deleted from the terminal address table of said one apparatus to the selected other apparatus (column 14, lines 12-41); and

storing the notified source address in the terminal address table of the notified other apparatus (column 14, lines 12-41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Maciel to include the address notification capabilities disclosed by

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Fenner to improve Maciel's ability to update addresses of source addresses so messages are not sent to the wrong node.

6. Maciel teaches a load balancing method according to claim 1, further comprising the steps of:

when a failure at the other apparatus is detected, judging whether the load of the one apparatus is smallest or relatively small (column 9, lines 38-45);

if the load of the one apparatus is smallest or relatively small, inheriting an entry of said other apparatus (column 9, lines 43-60).

7. Claim 3 is rejected under 35 U.S.C 103(a) as being unpatentable over Maciel, in view of Fenner.

8. Maciel teaches a load balancing apparatus comprising:

a measuring unit for measuring a load of data to be relayed in a network (column 6, lines 33-55 and column 8, lines 37-39)

a statistical processing unit for exchanging load data measured by said measuring unit between the apparatus and other apparatus (column 8, lines 25-44);

a data recording unit for recording the load data to be relayed in the network, respectively of each of the other apparatus and each terminal and received from said statistical processing unit (column 8, lines 33-36);

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a terminal address table for recording as an entry a source address of each terminal for relaying data in the network (column 1, line 53 to column 2, line 14);

a condition setting unit for judging from the load data recorded in said recording unit whether the load of the apparatus is largest or relatively large, and if the load is largest or relatively large, determining an entry which is passed to the other apparatus having a smallest or relatively small load (column 6, line 39 to column 7, line 27).

Maciel does teach a terminal table managing unit (column 2, line 52 to column 3, line 6), but not a unit for notifying the entry determined by said condition setting unit the other apparatus and deleting the entry from the terminal address table.

9. Fenner teaches a table managing unit for notifying the entry determined by said condition setting unit the other apparatus and deleting the entry from the terminal address table (column 14, lines 12-37). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Maciel's terminal table managing unit with a notification and deletion of entries functionality so the routers can have a up-to-date table of the entire network and its nodes.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art in regards to load balancing and virtual router redundancy protocol:

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U.S Patent No 5,993,038 to Sitbon et al;
U.S Patent No. 6,006,259 to Adelman et al;
U.S Patent No. 6,249,801 to Zisapel et al;
U.S Patent No. 6,345,041 to Kimball et al;
U.S Patent No. 6,397,260 to Wils et al;
U.S Patent No. 6,556,547 to Srikanth et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dohm Chankong whose telephone number is (703)305-8864.

The examiner can normally be reached on 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (703)305-8498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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